STATEMENT OF WORK

Requisition #: 285347

Title: Consulting Services for the 222-S Freight Elevator Hydraulic Cylinder Replacement

Revision Number: 0

Date: December 10, 2015

Prior SOW or Revision Date: N/A

1.0 Objective

The objective of this Statement of Work (SOW) is to obtain consulting services from a Washington State licensed elevator contractor for the replacement of the 222-S Laboratory freight elevator hydraulic cylinder.

This contract is phase one of two phases for this work activity. This phase addresses recommended equipment and work planning for the elevator replacement.

2.0 Background/Introduction

The current elevator hydraulic cylinder, car and controls were installed in 1951. The cylinder is approximately 28 feet-6 inches below grade. This single bottom cylinder has been in the ground for 60+ years. The potential for catastrophic failure due to separation of a single bottom from the cylinder increases with cylinder age.

The hydraulic pump was replaced in 2010. The current unit has a Dover ROTA-FLOW Power Unit (Model EP-60-15, Serial No. F-00954) installed by Sound Elevator Co., with a maximum lift capacity of 4000 lbs., and a travel of 28 feet-6 inches servicing three floor in the 222-S Laboratory.

In 1971 in the United States Safety Code for Elevators and Escalators began requiring that a "safety bulkhead," or double bottom cylinder be used. A safety bulkhead, or double bottom cylinder, is a cylinder with an additional bottom plate. The additional plate contains an orifice which allows a controlled evacuation of oil in the event of a failure of the cylinder bottom, decreasing the risk of injury to passengers from bottom failure of the cylinder. In 1989, the United States Safety Code for Elevators and Escalators began requiring various forms of corrosion protection for hydraulic cylinders. Depending upon the exact location and date of the particular installation, a tape coating, cathode protection or PVC protection may have been required by applicable code.

3.0 Scope

The Subcontractor shall supply professional consulting experience related to elevator systems to that include the following:

- Identify elevator system options for WRPS in order to create the most efficient and code compliant transportation solution for the 222-S Laboratory facility

- Provide design detail of recommended elevator systems, including elevator studies, component specifications, and providing blueprint drawings for incorporation into contract bid packages.
- Plan for performance of ASME A17.1 QEI-1 certified inspections of the completed 222-S Freight elevator
- Providing maintenance and spare parts planning – to verify contract compliance, confirm compliance with the ASME A17.1 maintenance provisions, and determining the long term viability of the equipment as required by the Original Equipment Manufacturer's (OEM) maintenance requirements.

The subcontractor shall provide elevator system options and interact with WRPS functional departments regarding equipment choices, construction/installation planning – including safety methods for in-process work configuration, and maintenance and spare parts planning.

Based on preliminary studies previously performed, WRPS recognizes the need to replace the hydraulic cylinder and pump, as a minimum. The subcontractor recommendations for the 222- S Freight Elevator replacement will be used for hardware procurement actions to be performed by WRPS.

The Subcontractor construction planning shall address replacement of the hydraulic cylinder, installation of secondary containment (encased cylinder) for the hydraulic oil, tie to existing hydraulic pump system, and complete other required changes to bring the system up to code.

4.0 Submittals

In support of the work scope established in Section 3.0 above, submittals are listed on the Master Submittal Register (MSR).

Submittals shall be provided using the TOC Incoming Letter of Transmittal (form A-6005-315). All transmittal subject headings shall contain, at a minimum, the subcontract number, submittal number, and submittal description.

Submittals shall be provided in electronic format unless available only as a hard copy. Electronic submittals may be sent to TOCVND@rl.gov or delivered via a WRPS designated File Transfer Protocol (FTP) site. Electronic formats must be non-password protected in one of the following formats:

- Microsoft® Office Compatible
- Portable Document Format (PDF)
- Tagged Image File Format (TIFF)
- Graphics Interchange Format (GIF)
- Joint Photographic Experts Group (JPEG)
- AutoCAD (DWG)
- Windows Media Video (WMV).

5.0 Acceptance Criteria

All submittals shall be accurate, legible, and reproducible. Before delivery, the Subcontractor shall review its work products, as applicable, for technical adequacy, completeness, and appropriate content. Acceptance shall be based on validation by WRPS that Subcontractor has accurately completed all work and resolved and/or incorporated all WRPS comments.

Minimum requirements for Plunger(s) and Cylinder(s):

Cylinders

1) Each cylinder shall be constructed of steel pipe of sufficient thickness and suitable for the operating pressure.
2) The top of each cylinder shall be equipped with a cylinder head with a drip ring to collect any oil seepage, as well as an internal guide ring and self-adjusting packing.

Plungers

3) Each plunger shall be constructed of selected steel tubing or pipe of proper diameter machined true and smooth with a fine polished finish.
4) Each plunger shall be provided with a stop ring electrically welded to it to prevent the plunger from leaving the cylinder.

Installation

5) Each plunger and cylinder shall be installed plumb and shall operate freely with minimum friction.

6.0 Configuration Management and Standards

6.1 Configuration Management Requirements

There are no specific Configuration Management requirements applicable to this SOW.

6.2 Applicable Standards

The Subcontractor is required to meet:

Items	Number	Title
1	TFC-BSM-AD-STD-02	*Editorial Standards for Technical Documents*
2	TFC-ENG-DESIGN-C-10	*Engineering Calculations*
3	TFC-ENG-DESIGN-C-25	*Technical Document Control*
4	TFC-ENG-DESIGN-C-34	*Technical Requirements for Procurement*
5	TFC-ENG-DESIGN-C-52	*Technical Reviews*
6	TFC-ENG-DESIGN-D-13.2	*Guidance for Applying Engineering Codes and Standards*
7	TFC-ENG-DESIGN-D-29	*Guidance for Inclusion of Human Factors in Design*
8	TFC-ENG-DESIGN-P-17	*Design Verification*
9	TFC-ENG-DESIGN-P-53	*Design Authority Technical Review*
10	TFC-ENG-DESIGN-P-54	*Checking of Engineering Documents*
11	TFC-ENG-STD-02	*Environmental/Seasonal Requirements for TOC Systems Structures, and Components*
12	DOE O 420.1B, 2005	Facility Safety
13	NFPA 101, 2003	Life Safety Code
14	ASME/ANSI A17.1	*Safety Code for Elevators and Escalators*

7.0 ESH&Q Requirements

7.1 Price-Anderson Amendments Act Requirements

This 7.2 section and the General Provisions Article 2.11 entitled, *Price-Anderson Amendments Act (PAAA)*, are both determined to be N/A.

7.2 Special ESH&Q Requirements

Access to the Hanford Site is not required for this scope of work.

8.0 Verification/Hold Points

There are no verification/hold points associated with this scope of work.

9.0 Reserved

10.0 Work Location/Potential Access Requirements

Work will be performed at the Subcontractor's facilities and at the Hanford site. Site visits are required for performing field inspections and coordination activities. The Subcontractor must be prepared to make periodic visits to Hanford Site locations (e.g. 2425 Stevens Center, 200 East/West Area, 222-S Laboratory, etc.).

11.0 Training

Subcontractor personnel shall have escorted access to the 222-S Laboratory. The Freight Elevator is not inside a radiation or contamination area. Subcontractor personnel shall have GERT computer based training and Facility Orientation. Craft assigned to the escort team shall perform all measurements and other tasks as directed by the Subcontractor personnel. No hands on work shall be performed by the Subcontractor.

12.0 Qualifications

Subcontractor personnel shall provide demonstrated experience and QEI certified personnel related to elevator system maintenance audits, code evaluations, specification development and review for maintenance, modernization, and installations.

All drawings and calculations shall be stamped by a Registered Professional Engineer with a current license in the State of Washington. The Subcontractor shall possess a current Washington State Elevator Contractor license.

13.0 Special Requirements

Use of Government Vehicles

There is no anticipated need for any Subcontractor employees to use a Government-furnished vehicle in the performance of this SOW. The Subcontractor's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this SOW unless this SOW is formally so modified by the parties and the employee(s) will present a valid driver's license to the BTR for review.

14.0 Reporting/Administration

Subcontractor information shall be submitted in electronic format as designated by the Buyer. If electronic formatted documents are required, the documents must be viewable using either Microsoft® Windows®, or Adobe® Acrobat® software.

Contract Kick-off Meeting

A kickoff meeting will be held between the Company and Subcontractor at the time of the contract award. The BTR, with the assistance of the Subcontractor, shall determine the location of the kick-off meeting. This meeting will focus on the Subcontractor's scope, line by line discussions of the deliverables, information transfer, reviews, meetings, reporting, etc.

Weekly Status Reports

The Subcontractor shall submit to the Buyer and Project Manager a simple summary of accomplishments, issues that require resolution, and problems encountered during the previous week.

Questions shall be formally submitted using the Company's Request for Information (RFI) form / process.

The Subcontractor shall submit a weekly cost and performance summary including percent complete against tasks, cost spent to-date, percent spent, and remaining contract amount.

Communications

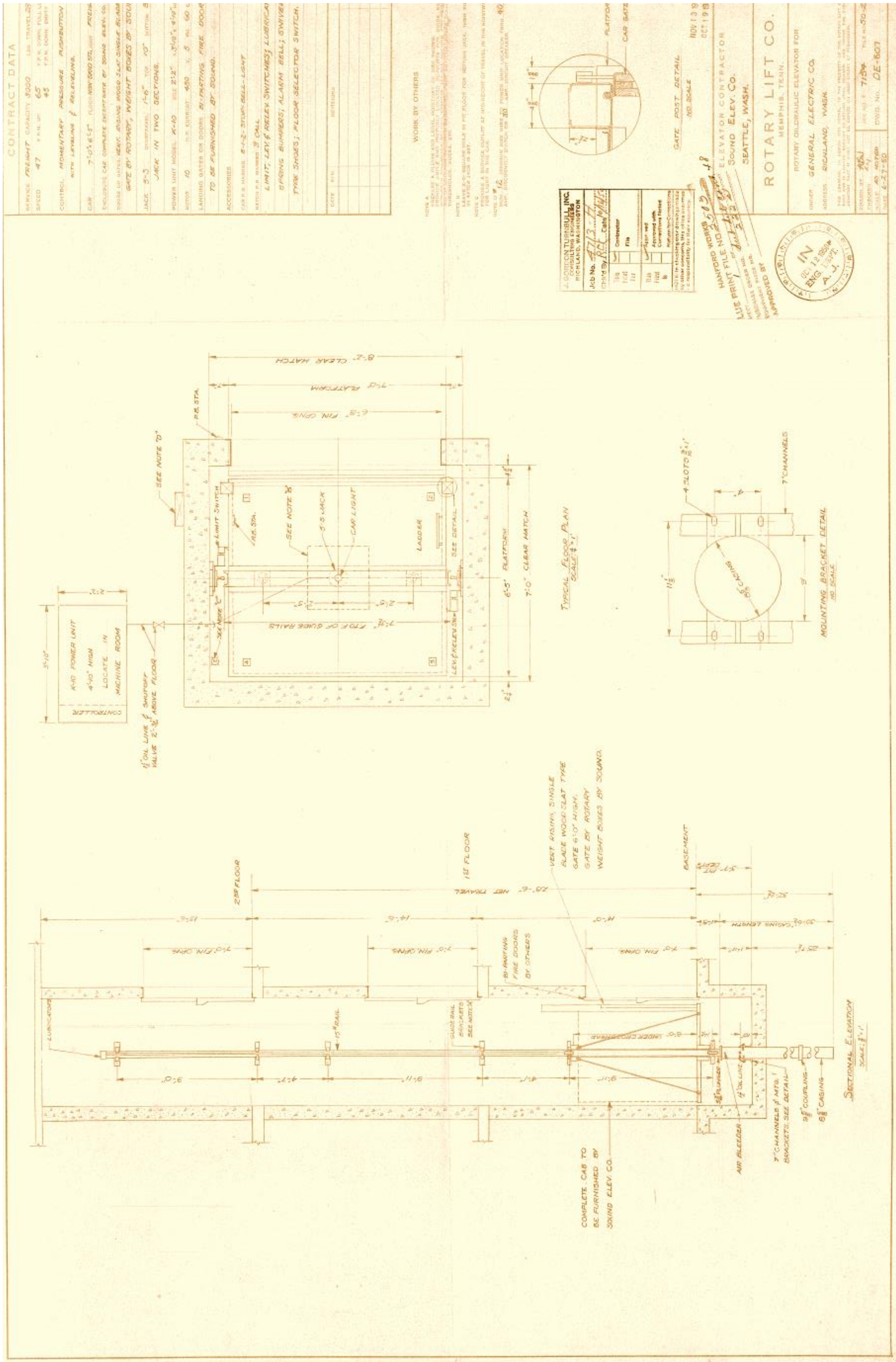
Any oral communications or informal written communications (e.g. e-mail, facsimiles) affecting the approved work scope shall be brought to the attention of the Company by the Subcontractor as soon as possible, but before the Subcontractor takes any action. Any changes / additions to the work scope shall be formalized by written contract amendment issued by the Buyer.

15.0 Workplace Substance Abuse Program Requirements

A Workplace Substance Abuse Program is not required for this SOW.

Existing Hydraulic Cylinder


WARNING
CAUTION


CONTRACT DATA
WORK BY OTHERS
GATE POST DETAIL
NO SCALE
ELEVATOR CONTRACTOR
SOUND ELEV. CO.
SEATTLE, WASH.
ROTARY LIFT CO.
MEMPHIS, TENN.
GENERAL ELECTRIC CO.
RICHLAND, WASH.
TYPICAL FLOOR PLAN
MOUNTING BRACKET DETAIL
SECTIONAL ELEVATION
BASEMENT
1ST FLOOR
2ND FLOOR
COMPLETE CAB TO BE FURNISHED BY SOUND ELEV. CO.